

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Dry Auglaize Creek

Waterbody Segment at a Glance:

County:	Laclede
Nearby Cities:	Lebanon
Length of impairment:	1.5 miles
Pollutant:	Unknown
Source:	Lebanon Wastewater Treatment Plant



State map showing location of watershed

TMDL Priority Ranking: High

Description of the Problem

Beneficial uses of Dry Auglaize Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Human Health associated with Fish Consumption

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

- The Missouri Water Quality Standard (WQS), found in 10 CSR 20-7.031 Table A, for dissolved oxygen (related to BOD) in streams is 5.0 mg/L (milligrams per liter or parts per million).
- The standards for volatile suspended solids (VSS) may be found in the general criteria section of the WQS at 10 CSR 20-7.031(3)(A) and (C). Here it states:
 - Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
 - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

Background Information and Water Quality Data

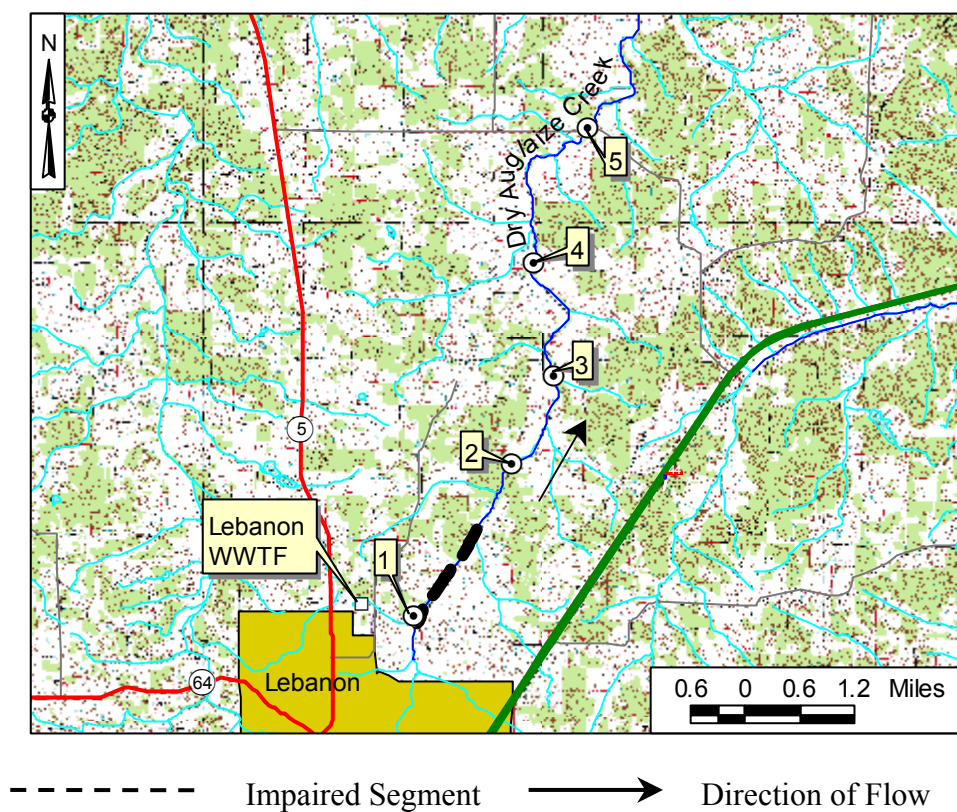
Based on data collected in 2000, this stream shows reduced diversity of aquatic invertebrates (like water insects and crayfish) downstream from the Lebanon wastewater treatment plant (WWTP). The aquatic life sustainability indices at 2.4 miles below the treatment plant were non-sustainable and only partially sustainable at 5.2 miles below the treatment plant. While the pollutant is listed as unknown, bypassing of untreated wastewater is likely to be releasing water to the creek that is high in Biological

Oxygen Demand (BOD) and Volatile Suspended Solids (VSS). BOD is the oxygen needed to support microbes that will break down organic matter. High BOD makes oxygen unavailable for naturally occurring aquatic organisms. VSS refer to particles that are suspended in water, like the algae in Dry Auglaize Creek, or those that settle out, like sewage sludge. Suspended algae are a problem in addition to being unsightly and smelly. They block sunlight, thus reducing dissolved oxygen in the water. Many aquatic organisms require high levels of oxygen to survive. Additionally, when algae dies off, the water is robbed of dissolved oxygen to decompose it.

Like all wastewater discharges in Missouri, the Lebanon WWTP has to meet the requirements of a discharge permit issued by Missouri Department of Natural Resources. The Lebanon WWTP discharges to a “losing stream” section of Dry Auglaize Creek. A losing stream is one that loses 30 percent or more of its flow to the groundwater system. Graphs summarizing the data and a map with sampling sites may be found below.

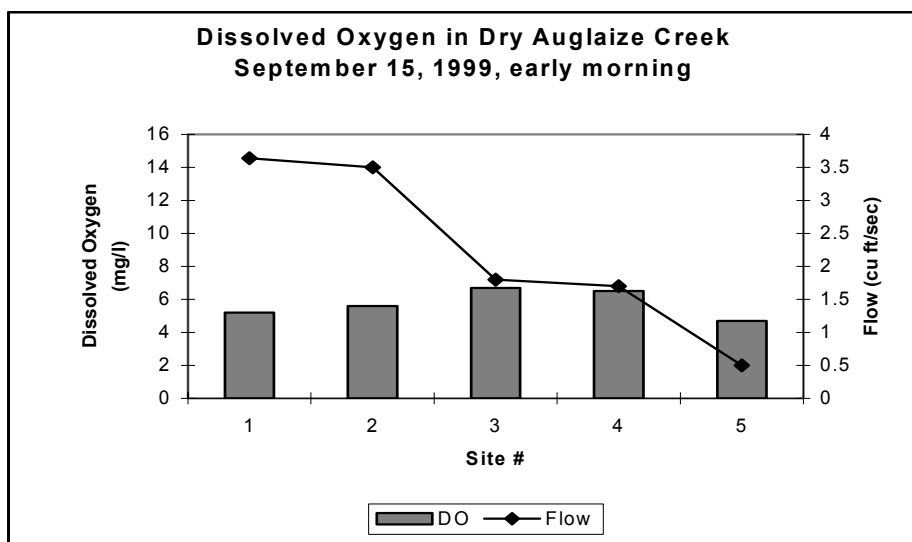
The City of Lebanon is required by a Consent Decree with the Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (MODNR) to eliminate bypassing in the wastewater system and ensure adequate capacity in the collection system and WWTP. Bypassing from manholes and lift stations results in wastewater being released before it can be treated. Elimination of bypassing should allow for most wastewater to be treated at the WWTP before it is released to the Dry Auglaize Creek. The department is planning to submit Lebanon’s permit in lieu of a TMDL.

Dry Auglaize Creek in Laclede County, Missouri, with Sampling Sites

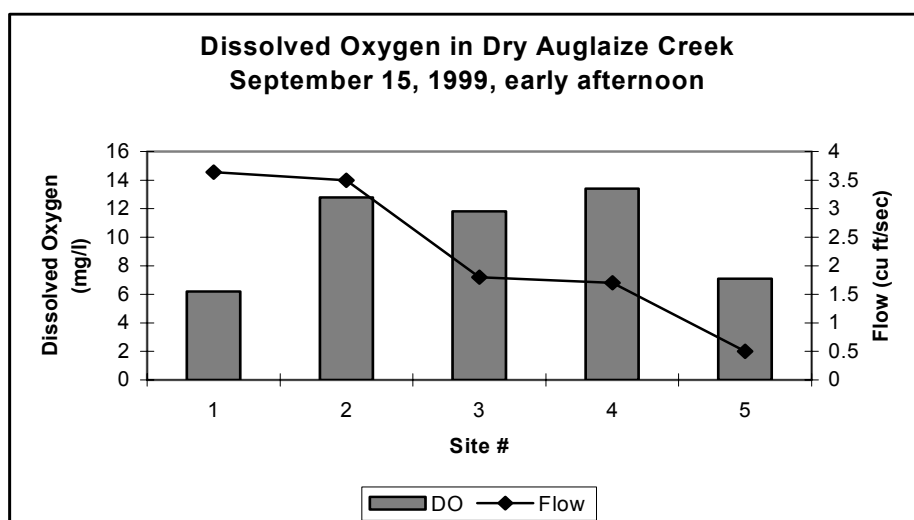


Site Index

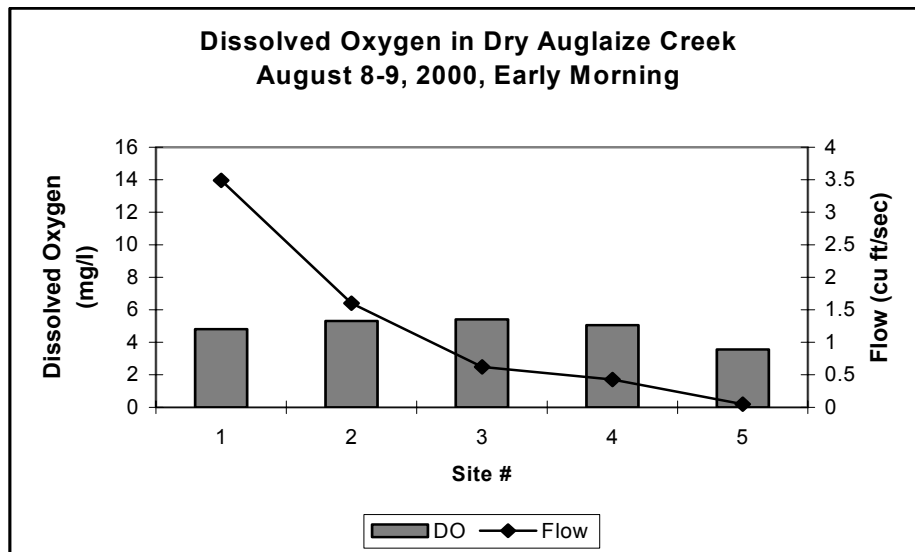
- 1 – Lebanon WWTP Outfall
- 2 – Dry Auglaize Creek 2 miles below Lebanon WWTP
- 3 – Dry Auglaize Creek 3.2 miles below Lebanon WWTP
- 4 – Dry Auglaize Creek 5 miles below Lebanon WWTP
- 5 – Dry Auglaize Creek 7 miles below Lebanon WWTP



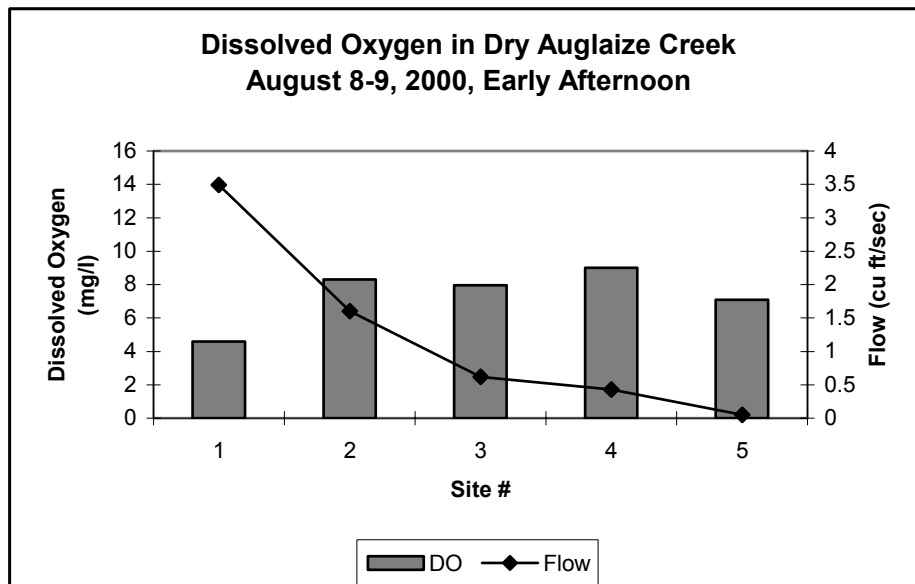
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For more information call or write:

Missouri Department of Natural Resources

Water Protection Program

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